

WHAT IS CLAIMED IS:

1. A black ink composition comprising (1) water, (2) carbon black, and (3) a fine particle emulsion,
wherein (A) the content of said carbon black is less than 0.4 wt%, and
wherein (B) the solid content of said fine particle emulsion is 20 times or more the content of said carbon black.
2. The black ink composition according to claim 1, wherein the content of said carbon black is 0.01 wt% or more.
3. The black ink composition according to claim 1 or 2, wherein said fine particle emulsion comprises at least one of a polyalkylene emulsion and an emulsion containing a pH-adjusted resin as a resin component,
wherein said pH-adjusted resin is obtained by a process comprising the steps of:
polymerizing an ethylenically unsaturated carboxylic acid monomer and another monomer copolymerizable with said ethylenically unsaturated carboxylic acid monomer in the presence of an alcoholic hydroxyl group-containing water-soluble polymer compound or a copolymerizable surfactant to give a copolymer having an acid value of 40 or less; and
adjusting the pH of said copolymer with an inorganic base.

4. The black ink composition according to claim 3, wherein said inorganic base used for preparing said pH-adjusted resin is an alkali metal hydroxide or an alkaline earth metal hydroxide.

5. The black ink composition according to claim 3 or 4, wherein said alcoholic hydroxyl group-containing water-soluble polymer compound used for preparing said pH-adjusted resin is a vinyl alcohol polymer.

6. The black ink composition according to claim 3, 4 or 5, wherein said ethylenically unsaturated carboxylic acid monomer used for preparing said pH-adjusted resin is an acrylic acid or a methacrylic acid.

7. The black ink composition according to any one of claims 3 to 6, wherein said monomer copolymerizable with said ethylenically unsaturated carboxylic acid monomer used for preparing said pH-adjusted resin is an ethylenically unsaturated carboxylate monomer.

8. The black ink composition according to any one of claims 3 to 7, wherein the pH of said emulsion containing the pH-adjusted resin as a resin component is from 8 to 11.

9. The black ink composition according to any one of claims 3 to 8, wherein said polyalkylene emulsion is a polyethylene emulsion or a polypropylene emulsion.

10. The black ink composition according to any one of claims 3 to 9, wherein the total content of the solids content of said pH-adjusted resin and said polyalkylene emulsion is from 0.5 wt% to 20 wt% on the basis of the total weight of the black ink composition.

11. The black ink composition according to any one of claims 1 to 10, further comprising a complementary colorant.

12. The black ink composition according to any one of claims 1 to 11, which is an ink composition for ink jet recording.

13. An ink set comprising a black ink composition according to any one of claims 1 to 12 and a black ink composition having a higher carbon black concentration and being darker than said black ink composition.

14. The ink set according to claim 13, comprising:
a black ink composition according to any one of claims 1 to 12;

a black ink composition for medium gradation containing carbon black in an amount of from 0.4 wt% to 1.5 wt% on the basis of the total weight of the black ink composition for medium gradation; and

a darker black ink composition containing carbon black in an amount of from 1.5 wt% to 10 wt% on the basis of the total weight of the darker black ink composition.

15. The ink set according to claim 14, wherein the black ink composition for medium gradation comprises at least one of:

a black ink composition containing carbon black in an amount of from 0.4 to 1 wt%; and

a black ink composition containing carbon black in an amount of from 1 to 1.5 wt%.

16. The ink set according to claim 14 or 15, wherein the black ink composition for medium gradation contains a fine particle emulsion, and the solid content of said fine particle emulsion is 2 times or more the content of the carbon black contained therein.

17. The ink set according to claim 16, wherein said fine particle emulsion of said black ink composition for medium gradation comprises at least one of a polyalkylene

emulsion and an emulsion containing a pH-adjusted resin as a resin component,

wherein said pH-adjusted resin is obtained by a process comprising the steps of:

polymerizing an ethylenically unsaturated carboxylic acid monomer and another monomer copolymerizable with said ethylenically unsaturated carboxylic acid monomer in the presence of an alcoholic hydroxyl group-containing water-soluble polymer compound or a copolymerizable surfactant to give a copolymer having an acid value of 40 or less; and

adjusting the pH of said copolymer with an inorganic base.

18. A recording method of performing recording by ejecting a droplet of an ink composition to attach the droplet on a recording medium by using an ink set according to any one of claims 13 to 17.

19. A recorded matter which is recorded by a recording method according to claim 18.